

**WHAT IS CLAIMED IS:**

1. A method of determining the transmission format of packet data between a first format and a second format longer than the first format based on at least one channel state value received from a mobile station, comprising the steps of:

- (a) sequentially storing received channel state values;
- (b) calculating the differences between all adjacent channel state values and determining the transmission format of packet data according to the calculated differences.

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2. The method of claim 1, wherein the step (b) comprises the steps of:

- (c) summing the differences calculated between all adjacent channel state values;

- (d) comparing the sum with a predetermined threshold;

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- (e) determining the transmission format of the packet data as the first format if the sum is greater than or equal to the predetermined threshold; and

- (f) determining the transmission format of the packet data as the second format if the sum is less than the predetermined threshold.

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3. The method of claim 2, wherein if the sum is less than the threshold and there exists insufficient transmission data, the transmission format of the packet data is determined as the first format.

4. The method of claim 2, wherein if the number of the received channel state values is less than a predetermined value, the transmission format of the packet data is determined as the first format and if the number of the received channel state values is greater than or equal to the predetermined value, the steps (c)

through (f) are performed.

5. The method of claim 2, further comprising the step of notifying a receiver of the determined transmission format of the packet data.

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6. The method of claim 5, wherein the transmission format of the packet data is notified by a preamble signal.

7. The method of claim 5, wherein the transmission format of the  
10 packet data is notified by a burst pilot signal.

8. A method of determining the transmission format of packet data between a first format and a second format longer than the first format based on the state measurements of received channel signals, comprising the steps of:

- 15 (a) sequentially storing the channel state measurements;  
(b) calculating the differences between all adjacent channel state measurements and determining the transmission format of packet data according to the calculated differences.

- 20 9. The method of claim 8, wherein the step (b) comprises the steps of:  
(c) summing the differences;  
(d) comparing the sum with a predetermined threshold;  
(e) determining the transmission format of the packet data as the first format if the sum is greater than or equal to the predetermined threshold; and  
25 (f) determining the transmission format of the packet data as the second format if the sum is less than the predetermined threshold.

10. The method of claim 9, wherein the packet data is transmitted in the first format for a predetermined time period after initial transmission.

11. An apparatus for determining the transmission format of packet data between a first format and a second format longer than the first format based on at least one channel state value received from a mobile station, comprising:

a calculation portion for determining the change history of received channel state values as a numerical value; and

a controller for determining the transmission format of the packet data as the first format if the output of the calculation portion is greater than or equal to a predetermined threshold and determining the transmission format of the packet data as the second format if the output of the calculation portion is less than the predetermined threshold.

12. The apparatus of claim 11, wherein the calculation portion comprises:

at least two memories for sequentially storing channel state values;

a plurality of first calculators for calculating the differences between the channel state values stored in memories having adjacent channel state values;

a plurality of second calculators for numerically expressing changes in the channel state using the differences; and

an adder for adding the outputs of the second calculators and outputting the sum to the controller.

13. The apparatus of claim 12, wherein the second calculators calculate the absolute values of the outputs of the first calculators.

14. The apparatus of claim 12, wherein the second calculators square the outputs of the first calculators.

15. The apparatus of claim 11, wherein the controller checks whether there are enough transmission data when the data packet can be transmitted in the second format and carries out data transmission in the second format only if there exists transmission data.

16. The apparatus of claim 11, wherein if the transmission format of the packet data is determined, information indicating the determined transmission format is transmitted by a preamble transmitter.

17. The apparatus of claim 11, wherein if the transmission format of the packet data is determined, information indicating the determined transmission format is transmitted by a burst pilot transmitter.